



**The Actuarial Profession**

making financial sense of the future

# ***ERM Working Party Plenary 5***

***Sejal Haria, George Orros, Michael Tripp (for the ERM Working Party)***

**4<sup>th</sup> October 2007**

34<sup>th</sup> ANNUAL GIRO CONVENTION - 2007

Newport, Wales

# Agenda

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- Setting the scene
- Literature review
  - ERM vs ICAS
- What does this mean for us?

# Who we are (were??)

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- Cherry Chan
- Sejal Haria
- Paul Hewett
- Neil Hilary
- Kathryn Morgan
- George Orros
- Geoff Perry
- Kartina Thomson
- Michael Tripp (Chair)

# What we produced

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- Substantial review of the ERM literature
- Essays relevant to subject
- An outline ERM framework based on best elements of other frameworks
- Case studies to promote thinking
- Summary of worldwide actuarial education
- A vision to challenge & stimulate thought
- Summary & ideas for next steps
- Appendices with useful information

*Will be on the GIRO website – READ IT!!*

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# What ERM is

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- *At present there is no complete and widely accepted definition.....*
- *In our view the best definition (COSO) : “Enterprise risk management is a process, effected by an entity’s board of directors, management and other personnel, applied in **strategy** setting and across the **enterprise**, designed to identify potential events that may affect the **entity**, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of **entity objectives**.”*

*COSO, the Committee of Sponsoring Organizations of the Treadway Commission. A voluntary USA organization that aims to improve the quality of financial reporting through business ethics, internal controls and corporate governance*

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# ERM Vision for 2025



Possible characteristics of an ERM system:

- Real time projections
- Forward looking
- Control of residual risks
- Tools to tailor / transform risks of increasing importance

# Literature Review - top 12 'must reads'

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- 1 Bohn, Christopher and Kemp, Brian (2006). *Enterprise Risk Management Quantification - An Opportunity*
  - 2 Brehm, Paul et al. (2007). *Enterprise Risk Analysis for Property & Liability Insurance Companies*
  - 3 Cabinet Office (2002). *Risk Improving Government's Capability to Handle Risk and Uncertainty*
  - 4 Chapman, Robert J. (2006). *Simple Tools and Techniques for Enterprise Risk Management*
  - 5 COSO (2004). *Enterprise Risk Management - Integrated Framework, Application Techniques* , COSO
  - 6 COSO (2004). *Enterprise Risk Management - Integrated Framework, Executive Summary* , COSO
  - 7 Crouhy, Michel et al. (2006). *The Essentials of Risk Management*
  - 8 Lam, James (2003). *Enterprise Risk Management - from Incentives to Controls*
  - 9 Sharma, Paul et al. (2002), *Prudential Supervision of Insurance Undertakings*
  - 10 Standard & Poor's (2005). *Insurance Criteria: Evaluating The ERM Practices of Insurance Companies*
  - 11 Taleb, Nassim N. (2007). *The Black Swan: the Impact of the Highly Improbable*
  - 12 Wang, Shaun and Faber, Robert (2006). *ERM for Property-Casualty Insurance Companies*
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# Literature Review

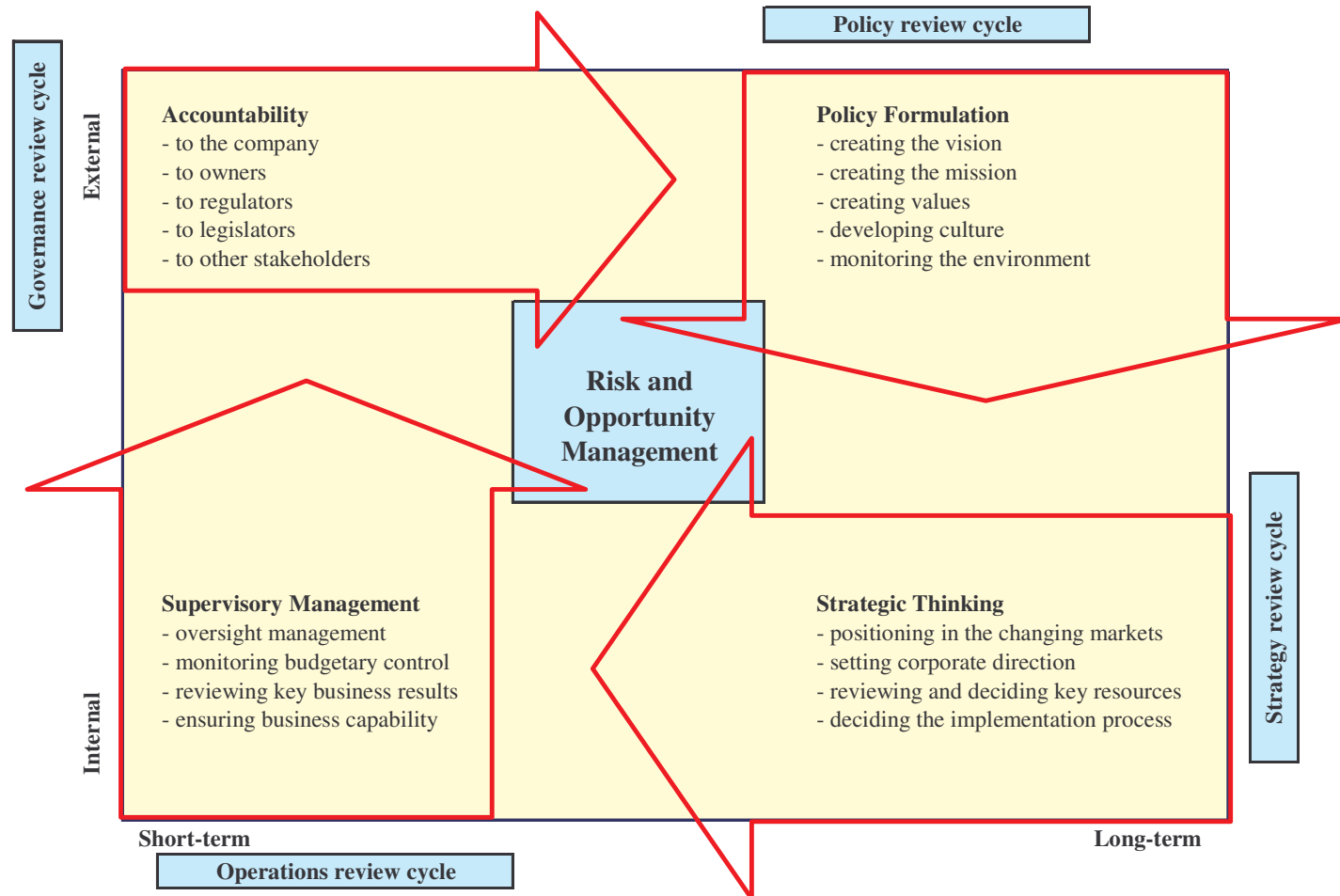
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- Chapman, Robert J (2006). Simple Tools and Techniques for Enterprise Risk Management
- COSO (2004). Enterprise Risk Management Integrated Framework. Executive Summary
- Taleb, Nassim N (2007). The Black Swan: the impact of the Highly Improbable



# ERM impinges on 4 Main Board Functions

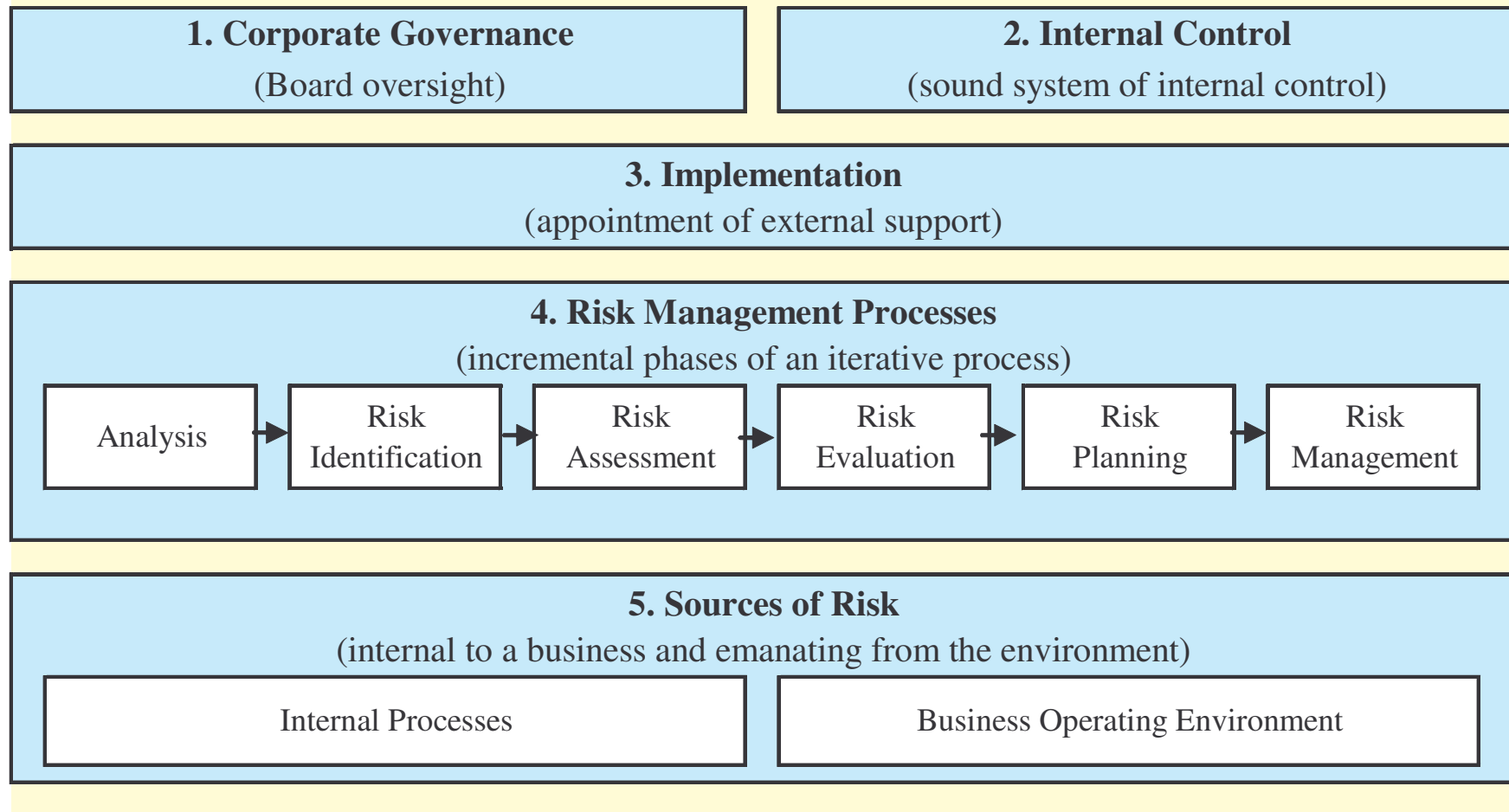
- Chapman locates ERM as axiomatic



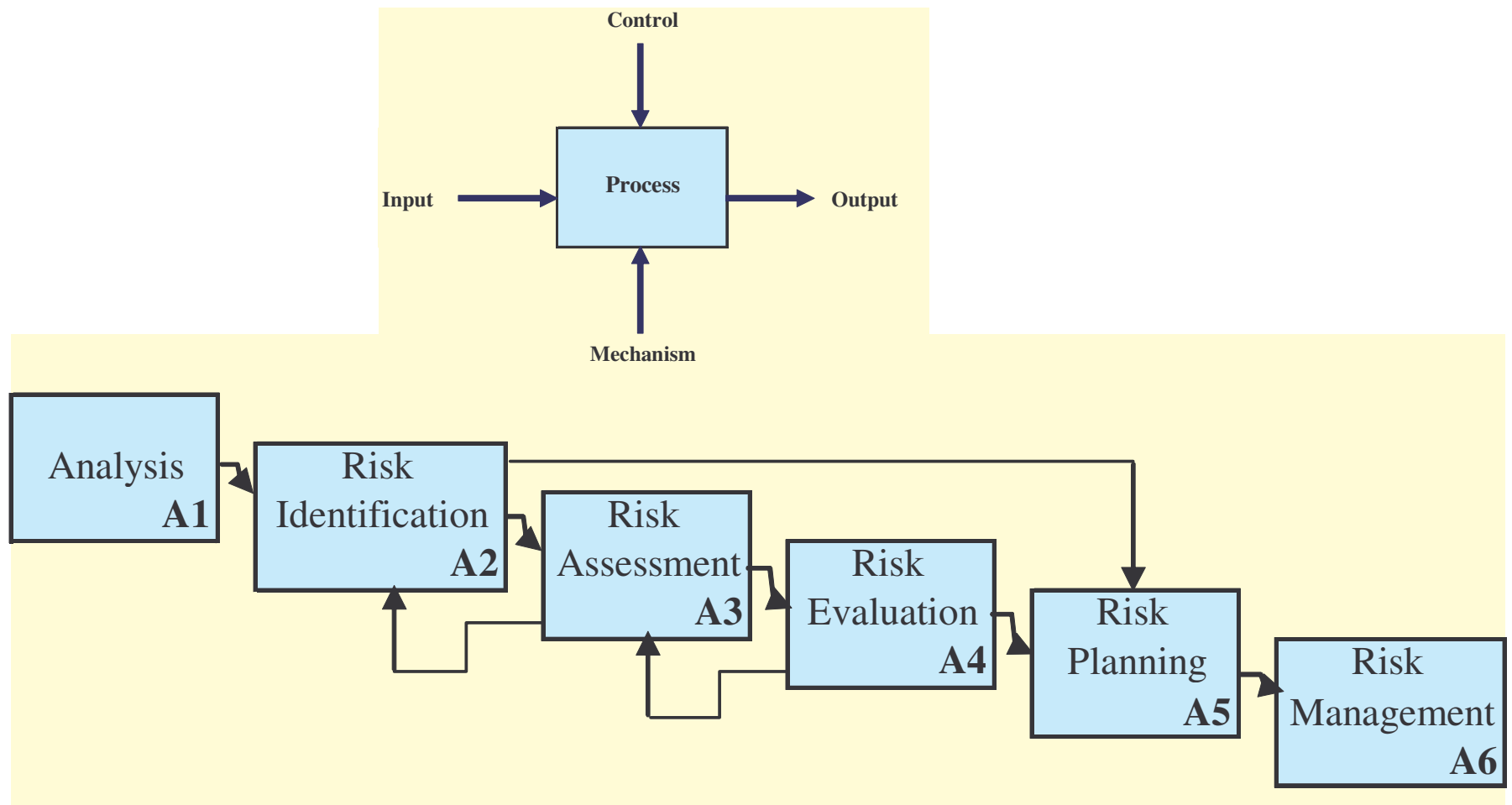
adapted from Garratt 2003, “The Fish Rots from the Head”

# Risk Management Processes

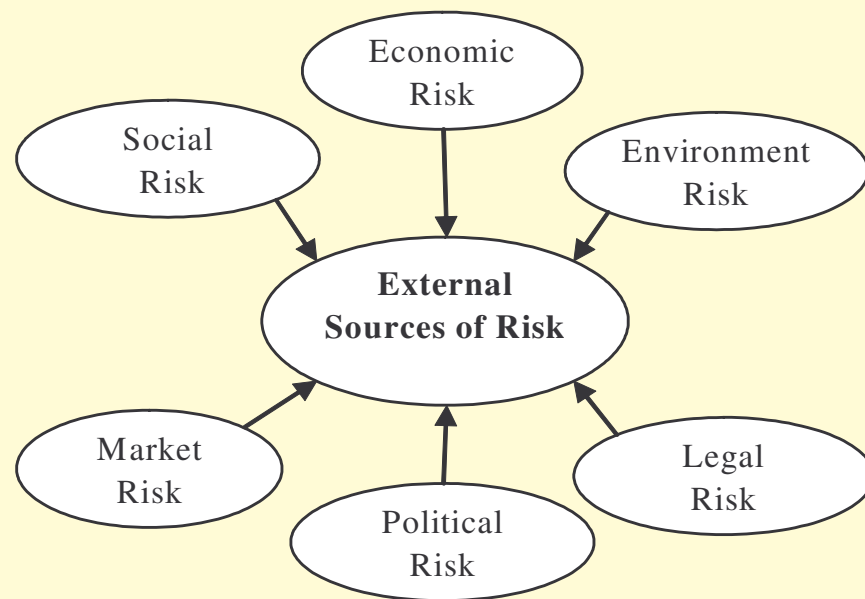
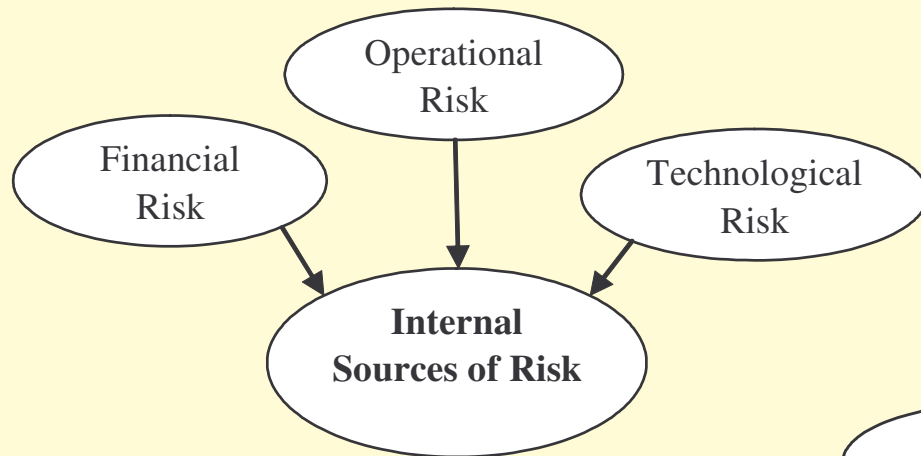
Chapman outlines 6-stage incremental & iterative process



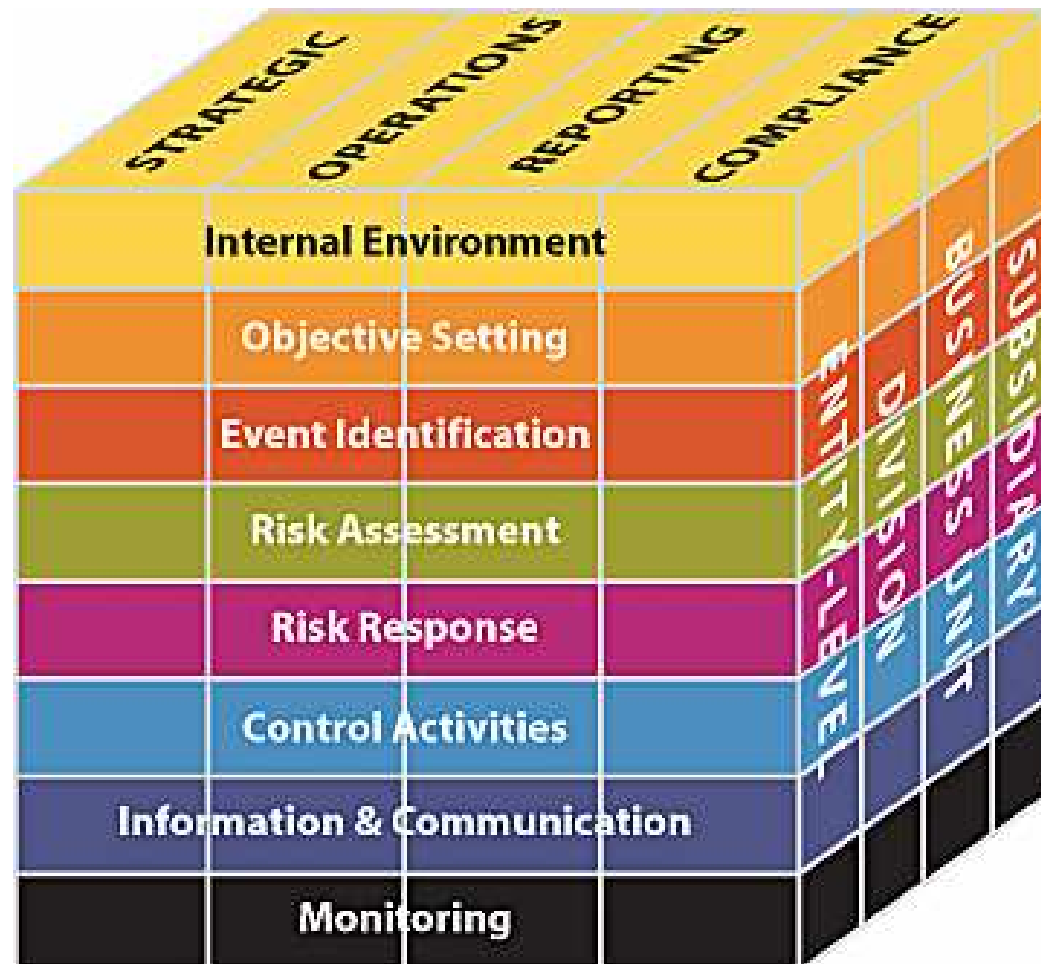
# Methodology for each process stage & feedback control loops for entire risk management process - Chapman



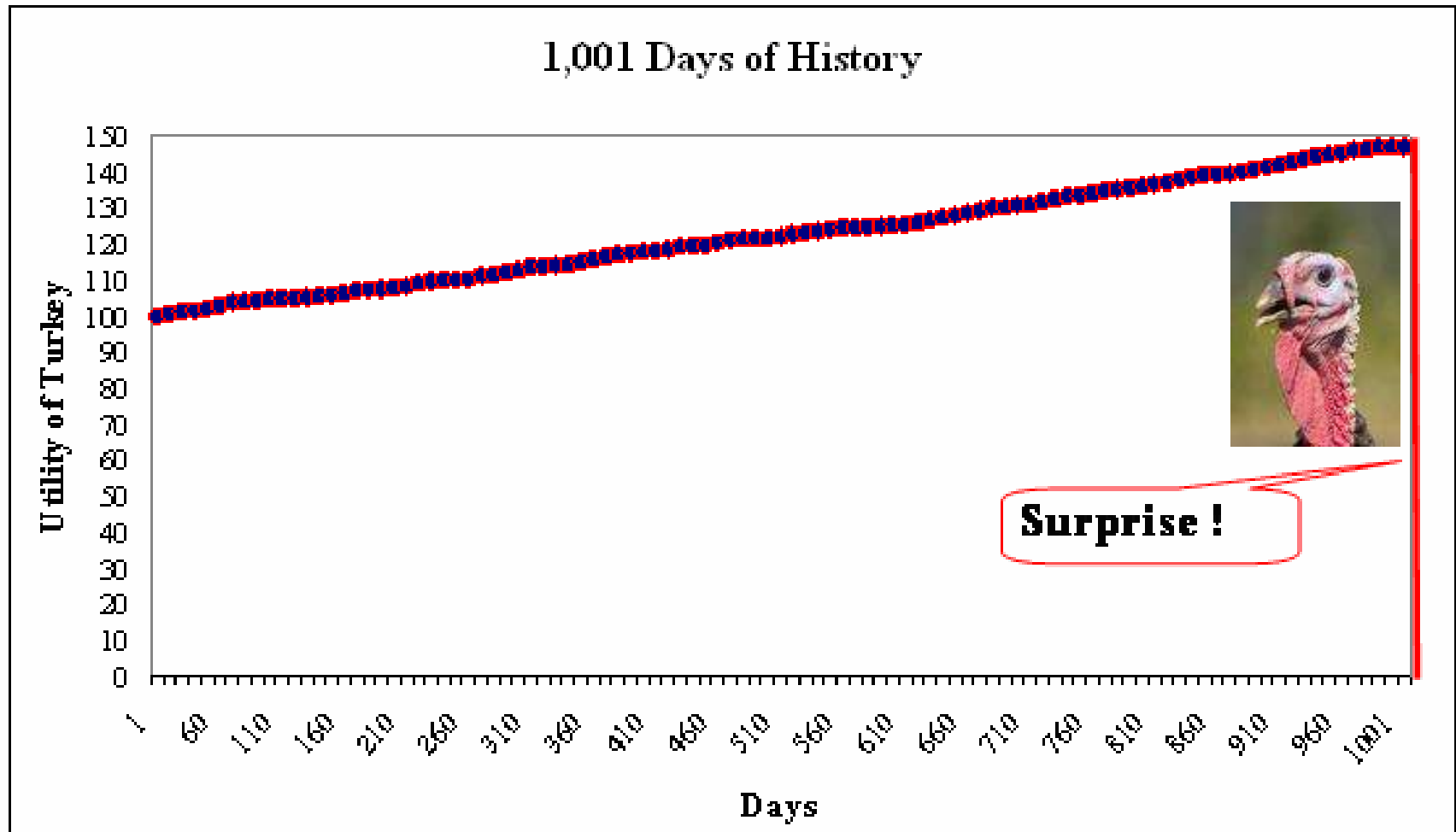
# Micro & Macro Risk - Chapman



# ERM Frameworks - COSO



# Problem of Inductive Knowledge & Revision of Belief - Taleb



# Problem of Inductive Knowledge & Revision of Belief - Taleb

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# ERM versus ICAS

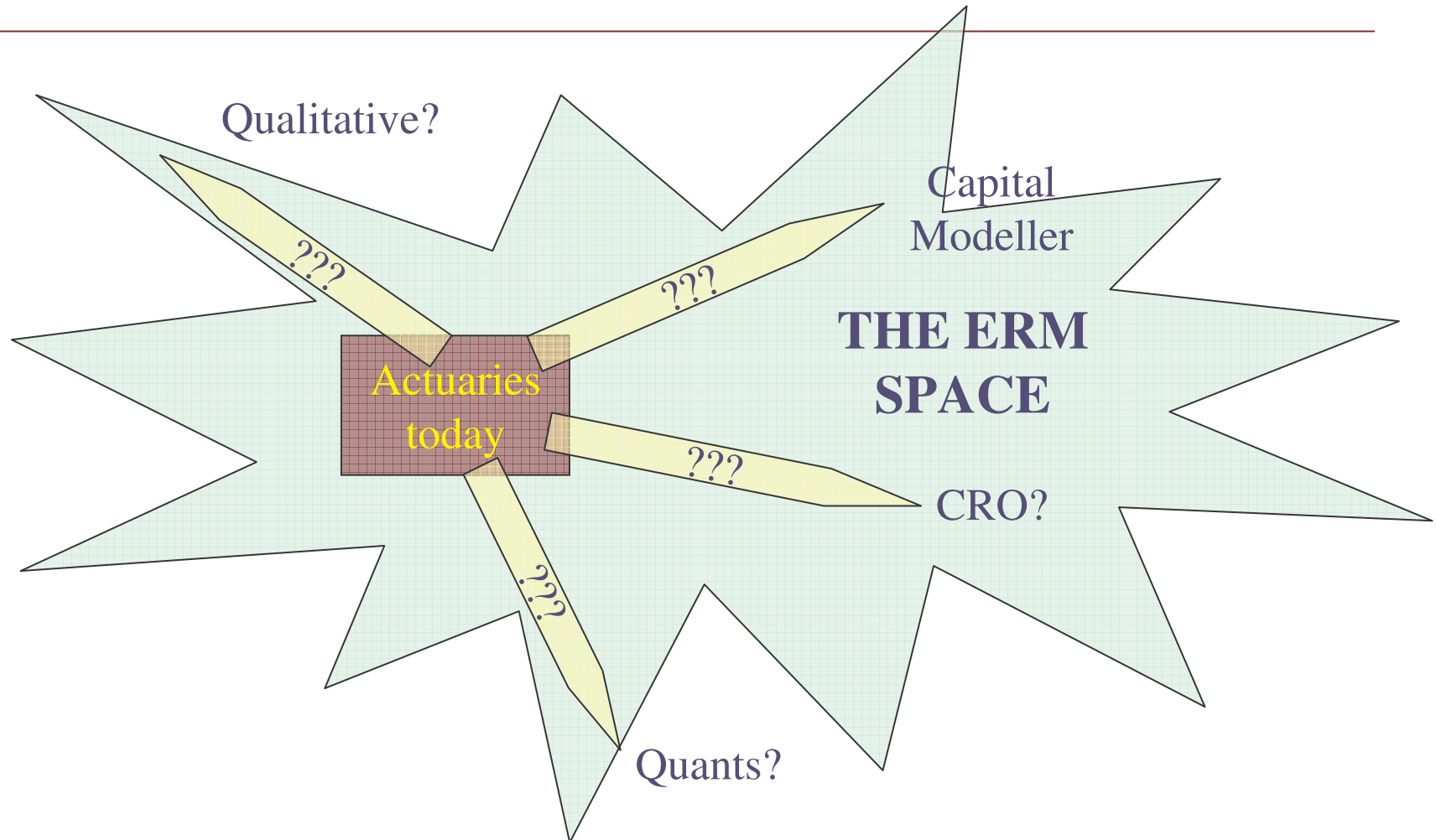
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- *The ICAS has been a step forward, but there are still gaps.....*
- *Considered thinking only takes you so far.... ERM is far more than modelling.....*
- *ERM incorporates both top down and bottom up approaches. There is not yet any one framework that provides the full answer.....*
- *ERM is about adding value to a business and engages the Board ensuring real world insights....*
- *Solvency II (e.g. Article 43 & 47)*



# What does this mean for us?

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# Proposed next steps

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- Form GIERM group
  - Produce paper for Sessional Meeting
  - Develop best practice, Solvency II compliant, Framework
  - Participate in FIRM RMSIG and other groups
  - More active links to USA, Australia and then India, China and other emerging countries?
  - Challenge thinking about what an actuary is?
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